

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P310845

Luminaire Tested: **24FCZ2-45-UNV-L82765-CP250-W2A-U-4500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P310845
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45-UNV-L82765-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (168) 4500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3907.0 lumens
Efficiency: N/A
Efficacy: 102.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

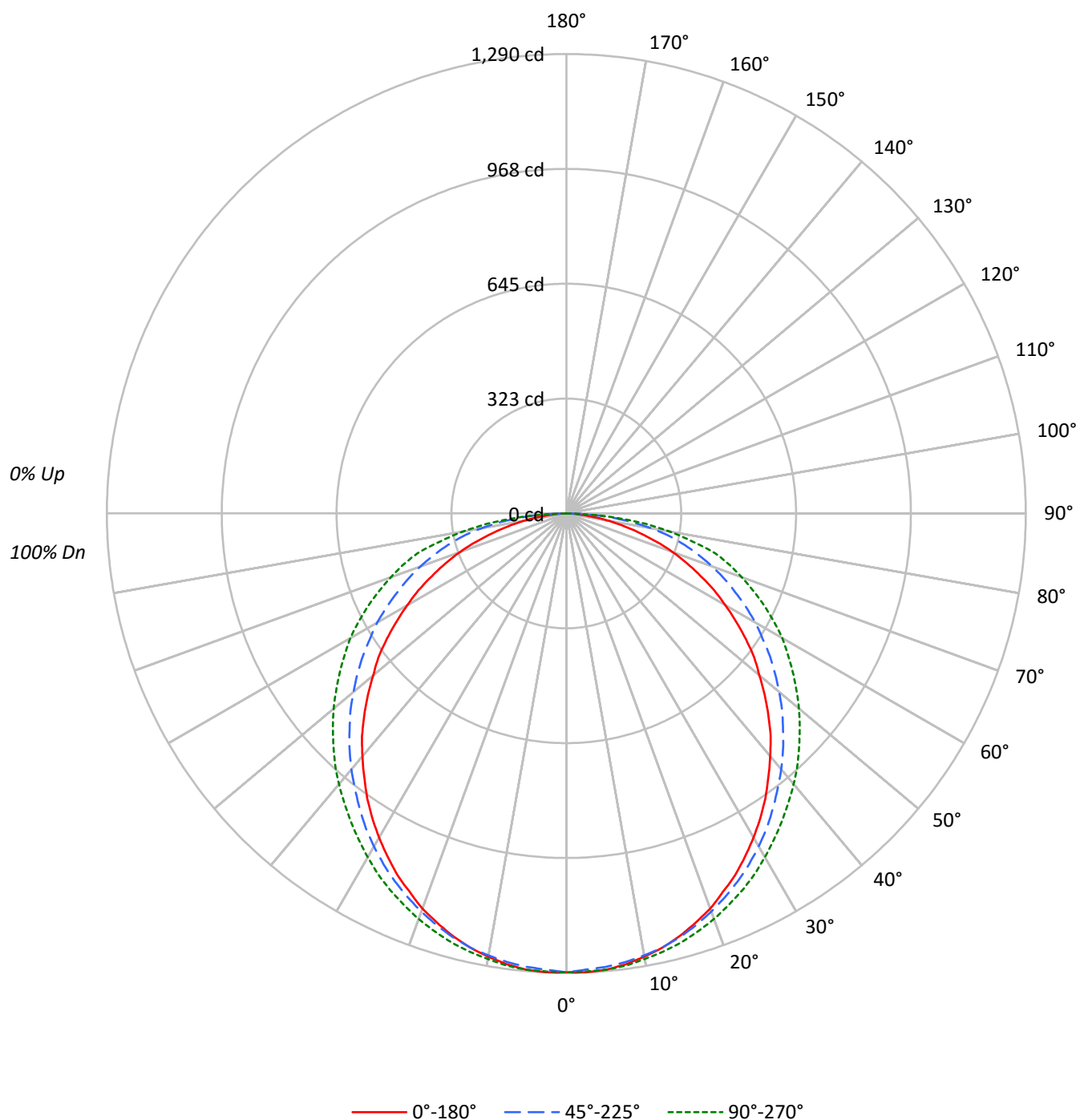
Input Watts (W): 38.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82		
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67		
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56		
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47		
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41		
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36		
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31		
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28		
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25		
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1734	1734	1734
5°	1737	1726	1737
10°	1727	1721	1736
15°	1712	1715	1737
20°	1691	1704	1735
25°	1665	1692	1734
30°	1633	1678	1732
35°	1601	1661	1733
40°	1564	1648	1744
45°	1527	1638	1759
50°	1482	1634	1785
55°	1444	1636	1822
60°	1388	1650	1884
65°	1325	1667	1952
70°	1255	1718	2060
75°	1119	1792	2251
80°	954	1898	2300
85°	681	1880	2201



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.9	3.1
10°-20°	348.7	8.9
20°-30°	526.6	13.5
30°-40°	634.7	16.2
40°-50°	666.3	17.1
50°-60°	623.4	16.0
60°-70°	514.8	13.2
70°-80°	350.8	9.0
80°-90°	119.6	3.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	997.3	25.5
0°-40°	1632.0	41.8
0°-60°	2921.7	74.8
0°-90°	3907.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3907.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1288	1288	1288	1288	1288	
5°	1286	1285	1278	1286	1286	122
15°	1229	1230	1232	1244	1247	346
25°	1121	1126	1139	1162	1168	516
35°	975	985	1011	1045	1055	609
45°	802	819	861	907	924	619
55°	616	640	697	754	776	550
65°	416	451	524	590	613	413
75°	215	264	345	410	433	229
85°	44	87	122	137	143	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1288.5	1288.5	1288.5	1288.5	1288.5
2.5°	1289.8	1288.5	1282.0	1288.5	1287.2
5°	1285.9	1284.6	1278.1	1285.9	1285.9
7.5°	1276.8	1276.8	1270.3	1279.4	1280.7
10°	1263.9	1263.9	1260.0	1270.3	1270.3
12.5°	1248.3	1248.3	1248.3	1258.7	1260.0
15°	1228.9	1230.2	1231.5	1244.4	1247.0
17.5°	1205.5	1208.1	1212.0	1227.6	1230.2
20°	1180.9	1183.5	1190.0	1208.1	1212.0
22.5°	1149.8	1156.3	1165.3	1186.1	1190.0
25°	1121.3	1126.5	1139.4	1161.5	1167.9
27.5°	1086.3	1094.1	1110.9	1134.2	1143.3
30°	1051.3	1059.1	1079.8	1107.0	1114.8
32.5°	1013.7	1025.4	1047.4	1075.9	1085.0
35°	974.8	985.2	1011.1	1044.8	1055.2
37.5°	932.0	946.3	974.8	1011.1	1024.1
40°	890.5	906.1	938.5	977.4	992.9
42.5°	849.1	864.6	900.9	945.0	960.5
45°	802.4	819.2	860.7	907.4	924.2
47.5°	755.7	776.5	821.8	871.1	889.2
50°	707.8	731.1	780.4	832.2	852.9
52.5°	665.0	687.0	738.9	794.6	814.1
55°	615.7	640.4	697.4	754.4	776.5
57.5°	565.2	592.4	653.3	715.5	737.6
60°	515.9	545.7	613.1	675.4	700.0
62.5°	468.0	497.8	567.8	632.6	657.2
65°	416.1	451.1	523.7	589.8	613.1
67.5°	366.8	404.4	480.9	545.7	569.1
70°	318.9	355.2	436.8	500.4	523.7
72.5°	267.0	308.5	390.2	456.3	480.9
75°	215.2	264.4	344.8	409.6	433.0
77.5°	167.2	217.8	298.1	351.3	363.0
80°	123.1	175.0	245.0	282.6	296.8
82.5°	79.1	130.9	186.7	213.9	225.6
85°	44.1	86.9	121.8	137.4	142.6
87.5°	18.1	37.6	49.3	55.7	55.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)